



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,785	02/05/2004	Friedrich-Karl Bruder	PO-7808C/LeA 36,299-C	5193

157 7590 07/29/2004

BAYER MATERIAL SCIENCE LLC
100 BAYER ROAD
PITTSBURGH, PA 15205

EXAMINER

BOYKIN, TERRESSA M

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/772,785	Applicant(s) BRUDER ET AL.	
	Examiner Terressa M. Boykin	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 14 -19, 20, 21, 22-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 14 -19, 20, 21, 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/687862.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1711

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file application 10/687862.

35 USC 112, Second Paragraph

Claims 14- 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

***It is noted that there exist no original claim 13 among applicants' claims. ***

Correction is required.

35 USC 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-19, 20,21, 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0049030 further in view of US 20040059068 see abstract, and excerpt below.

The references discloses an alkylphenoxy prepared from the same components as claimed by applicants except for disclosed use of the compound as a chain stopper or terminator as claimed by applicants' herein. However, it is well known in the art that alkylphenoxy compounds in general, may be used as chain stoppers for polymers. However, the reference US 20040059068, for example, discloses the use of several phenoxy moieties for this purpose. Note that the reference states that "Examples of the terminal stopper which may be employed include phenol, p-cresol, p-tert-butylphenol, p-tert-octylphenol, p-cumylphenol, p-nonylphenol, p-tert-amylphenol, bromophenol, tribromophenol, and pentabromophenol. Of these, phenol compounds containing no halogen atom are preferred, since they less adversely affect the environment. Further, the reference includes that when an aromatic polycarbonate copolymer

Art Unit: 1711

containing the polyorganosiloxane structural unit in a predetermined amount and having such an alkylphenoxy group that has a C10-C35 alkyl substituent and serves as an end group is produced as the laser marking resin of the present invention, a terminal stopper;

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the alkylphenoxy compound as claimed for use as a chain terminating agent for a polymer compound since such alkylphenoxy moieties are commonly and known in the art to be used for this purpose.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

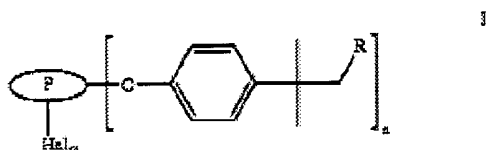
A person shall be entitled to a patent unless –
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-19, 20,21, 22-27 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0049030 see abstract, pages 1-6.

Applicants' claims are directed to a process of using of at least one member selected from a first group consisting of compounds conforming to formula (1) 19 wherein R1 is either H or a CH₃ radical; R2 denotes a member selected from the group consisting of H, linear C₁-C₁₈ alkyl, branched C₁-C₁₈ alkyl, linear C₁-C₁₈ alkoxy, branched C₁-C₁₈ alkoxy, Cl, Br, aryl radical and aralkyl radical, Z denotes an alkylene having 1 to 30 carbon atoms or a single bond, X denotes a single bond or a divalent radical, Y denotes a member selected from the group consisting of a cycloaliphatic radical, polycyclic aliphatic radical and an aromatic radical, and n is 1, 2, 3 or 4 and m is 0, 1, 2 or 3, with the proviso that the sum of n plus m is 4, comprising adding said phenol as a chain terminator to the reaction that entails at least one diphenol in the preparation of a member selected from a second group consisting polycarbonate, polyester carbonate and polyester.

Art Unit: 1711

With regard to claims 1, 22-27 note that the reference US 2004/0049030 discloses a tert-Alkylphenoxy-substituted polycyclic compounds of the general formula I:



where P is a conjugated polycyclic radical which is stable to bases and nucleophiles, optionally bears aryl substituents and contains no group from the group consisting of --CO--NH--CO--, --COOH and --CO--O--CO--; R is C₁-C₈-alkyl, whose carbon chain may be interrupted by one or more groups selected from the group consisting of --O--, --S--, --NR₁--, --CO-- and/or --SO₂-- and which may be monosubstituted or polysubstituted by C₁-C₆-alkoxy or by a 5- to 7-membered heterocyclic radical which is attached via a nitrogen atom and may contain further heteroatoms and be aromatic; C₅-C₈-cycloalkyl whose carbon chain may be interrupted by one or more groups selected from the group consisting of --O--, --S--, --NR₁--, --CO-- and/or --SO₂-- and which may be monosubstituted or polysubstituted by C₁-C₆-alkyl; R₁ is hydrogen or C₁-C₆-alkyl; Hal is chlorine and/or bromine; m is from 0 to 15; n is from 1 to 16, subject to the proviso that the sum m+n is > or = to 16, are prepared and used. tert-alkylphenoxy substituted polycyclic compounds of general formula (I), in which the variables have the following meanings: P=a conjugated polycyclic group, optionally aryl substituted, stable to base and acid and not containing residues from the group --CO--NH--CO--, --COOH and --CO--O--CO--; R is a C₁-C₈ alkyl, the carbon chain of which may be interrupted by one or several groups of --O--, --S--, --NR₁--, --CO-- and/or --SO₂-- and which may be mono- or serially-substituted by C₁-C₆ alkoxy or 5- to 7-membered heterocyclic group, bonded by means of a nitrogen atom, which can contain further heteroatoms and can be aromatic, C₅-C₈ cycloalkyl. the carbon skeleton of which may be interrupted by one or several groups of --O--, --S--, --NR₁--, --CO-- and/or --SO₂-- and may optionally be substituted with C₁-C₆ alkyl R₁ is H or C₁-C₆ is an alkyl; Hal is a chlorine and/or bromine; m = a number from 0 to =15; n = a number from 1 to 16, whereby the sum m+n is > or = 16, production and use thereof.

With regard to applicants' claims 2, 3 and 4 the reference states that the compounds I according to the invention are notable for their high solubility in, ie. their very good compatibility with, not only polar media (eg. aliphatic alcohols and esters on the one hand and polyacrylates, polycarbonates and polyesters on the other) but also nonpolar media (respectively alkanes and polyolefins, for example).

With regard to applicants' claims 5, 6 and 7 regarding molded articles comprising the moieties therefrom, note that the reference states that the

Art Unit: 1711

compound may be used with advantage for a multiplicity of applications, for example for coloring or additivating high molecular weight organic and inorganic materials, especially plastics, paints and printing inks, and oxidic materials. It is well-known that plastics may be used for preparing molded articles therefrom.

It is noted that claims 8-12 have been cancelled.

It is noted that exist no original claim 13.

With regard to original claims 14, 15, 16, 17, 18, and 19 as noted above, the reference states that the compounds I are notable for their high solubility in, ie. their very good compatibility with, not only polar media (eg. aliphatic alcohols and esters on the one hand and polyacrylates, polycarbonates and polyesters on the other) but also nonpolar media (respectively alkanes and polyolefins, for example).

With regard to applicants' claims 20 and 21 note table 1 and examples 1-15.

Thus the reference US 2004/0049030 discloses a prepared from the same components as claimed by applicants. Thus in view of the above, there appears to be no significant difference between the reference US 2004/0049030 and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone

Art Unit: 1711

number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (**571-272-1700**).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb



Examiner Terressa Boykin
Primary Examiner
Art Unit 1711